

*Return to
Dawson*

FEASIBILITY STUDY

US 17
From the North End of the Hertford Bypass
to US 17 Business North of Edenton
Perquimans-Chowan Counties
R-2208

Prepared by
Planning and Research Branch
Division of Highways
N. C. Department of Transportation

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to US 17 Business North of Edenton
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The subject project is included in the 1987-1995 Transportation Improvement Program for feasibility study and/or right-of-way protection. This report provides a brief initial analysis of possible improvements. The project is not currently funded.

I. General Description

The proposed project consists of widening US 17 from the north end of the Hertford Bypass in Perquimans County to the intersection of US 17 Business north of Edenton in Chowan County, a distance of approximately 11.3 miles. Widening of the existing two lane highway to a four lane divided facility appears to be feasible and desirable.

II. PURPOSE OF PROJECT

US 17 is classified as a rural Principal Arterial on the North Carolina Functional Classification System and is also classified as a Federal Aid Primary route. It functions as the major north-south coastal highway in North Carolina. The current traffic volumes range from 5000 vehicles per day (vpd) near Edenton to 6500 vpd at Hertford. These volumes are expected to increase to a range of 8800 vpd to 11400 vpd in 2007. An analysis of the subject section indicates that it is currently operating at Level of Service "C". Based on traffic projections the subject section will be operating at Level of Service "D" at the end of the 20 year planning period if no improvements are made. The provision of the two additional lanes will help to provide a higher level of service in the future.

Based on reaction to the adjoining project (R-1009) there should be strong local support for the project. This project is also consistent with long range plans to four lane US 17 from Virginia to South Carolina.

Existing pavement width is 22' throughout the project length except for the Hertford Bypass which has a 24' pavement. Horizontal and vertical alignment are generally good and the terrain is flat. Existing right-of-way is 60' except for the Hertford Bypass which has 200' of right-of-way and a short segment near SR 1101 in Chowan County which is 100' in width. The right-of-way along the Hertford Bypass is offset to allow widening to four lanes without further right-of-way acquisition.

The speed limit along the project is 55 mph. There are no traffic signals and all intersections are at-grade and will remain so. Development along the project is primarily rural residential and agricultural uses.

A strip accident analysis of the studied section of US 17 was provided by the Traffic Engineering Branch. This study covered the period from January 1, 1984 through March 31, 1987. The following table gives a comparison between the accident rates for US 17 and the statewide accident rates for US primary highways.

Accident Rates

Chowan County

	<u>US 17</u>	Statewide Average US Primary Routes (1986)
Total Accidents (Accidents per million vehicle miles)	5.09	1.49
Fatal Accidents (Accidents per 100 million vehicle miles)	0.00	2.7
Non-Fatal Injury Rate (Accidents per 100 mvm)	33.94	69.9
Night Accident Rate (Accidents per 100 MVM)	22.62	45.4
Wet Accident Rate (Accidents per 100 mvm)	11.31	32.9

Perquimans County

Total Accidents (Accidents per mvm)	8.25	1.49
Fatal Accidents (Accidents per 100 mvm)	2.63	2.7
Non-Fatal Injury Rate (Accidents per 100 mvm)	36.00	69.9
Night Accident Rate (Accidents per 100 mvm)	31.61	45.4
Wet Accident Rate (Accidents per 100 mvm)	22.83	32.9

No particular accident patterns stand out nor do any high accident locations. While the total accident rates for each county are higher than the statewide average all other rates are lower. The alignment is good and the only reason for the higher total accident rate may be the 22' wide pavement which is narrower than desirable for a two lane US primary highway.

I. RECOMMENDED IMPROVEMENTS

The most feasible improvement is widening the existing two lane highway to a four lane divided section with 44' grass median. This will be consistent with the adjoining section of US 17 north of Hertford. The proposed cross-section will consist of two 24' pavements separated by a 44' grass median, 10' useable shoulder widths with 2' paved.

The estimated cost of the recommended improvements is \$18,100,000 for construction and \$6,000,000 for right-of-way. The construction cost includes the cost of a new bridge across the Perquimans River at Hertford and the resurfacing and widening of the existing two lanes. . The estimated length of the bridge will be 2900' and the width will be 32'. Right-of-way for a divided four lane facility exists for a 3.9 mile section (Hertford Bypass). It is estimated that an additional 160' of right-of-way will be acquired to contain the recommended cross-section on the remainder of the project length. No control of access is included in the right-of-way estimate. The additional width will be located to minimize disruption to development and to minimize overall construction costs.

IV. ALTERNATIVES

A relocation of the highway would be feasible but would offer few advantages while being more expensive to construct. A different cross-section would be inconsistent with the adjoining section of US 17 and would offer no advantages over the proposed improvements.

V. POSSIBLE ENVIRONMENTAL IMPACTS

The most significant environmental impacts will be possible impacts on wetlands and farmland and the relocation of homes and businesses.

VI. SCOPE OF STUDY

Construction cost estimates were based on costs of the comparable adjoining project and were furnished by the Roadway Design Unit. Right-of-way estimates were furnished by the Right-of-Way Branch following a field review.

The proposed improvements were based on input from the Division Engineer, field investigation, coordination with the Roadway Design Unit and experience with planning for the adjoining section of US 17 (Project R-1009).

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